

# ST2

## USER MANUAL

English



+STROMER-

the swiss e-bike



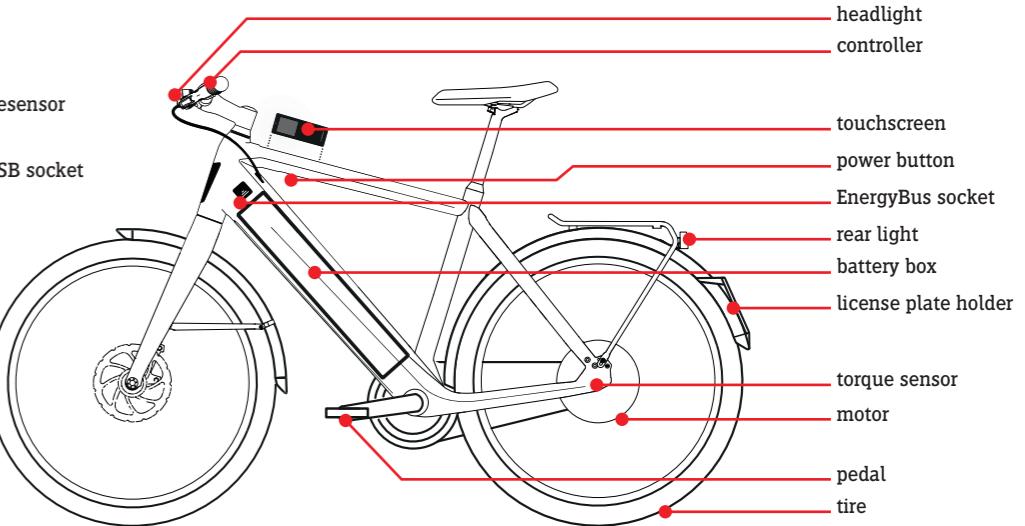
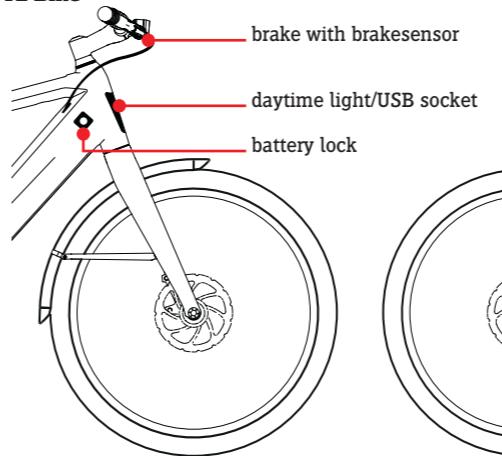
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## ST2 components

### Scope of delivery

#### ST2 Bike



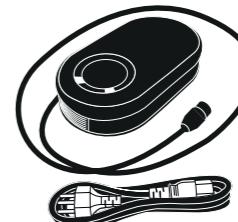
#### ST2 Parts Box



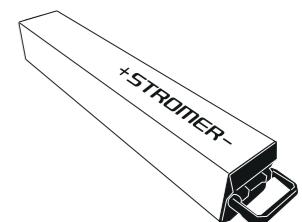
**Content:**

- 2x keys
- Manual ST2
- Manual BMC
- battery charger

#### Battery charger



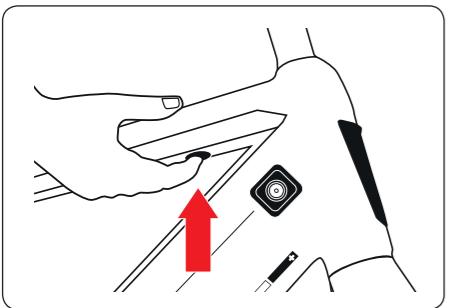
#### Battery



## User interface

### Power button

The power button is located on the bottom of the top tube below the touchscreen.

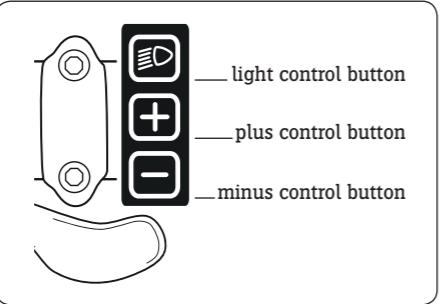


The power button has the following functions:

- Switch on
- Change from shortcut screen to ride screen 2/3
- Change from ride screen to shortcut screen
- Change from any point in the menu to the shortcut screen

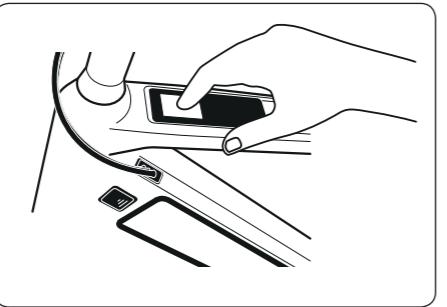
### Touchscreen

The ST2 is equipped with a resistive touchscreen. This means that the touchscreen does not react to contact like capacitive touchscreens, but rather to slight pressure from the finger and can thus also be readily operated with gloves. With light pressure on the touchscreen, you navigate through the various menus and can change the ride screen.



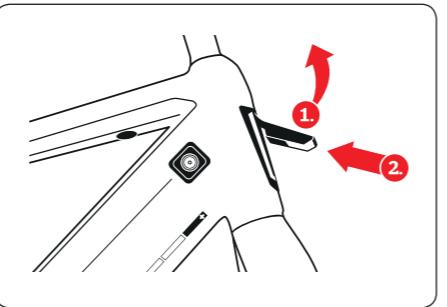
### USB charging socket

Is the battery in your smartphone empty? – no problem. The ST2 is equipped with a USB charg-



### Controller

Using the controller, you can control the most important functions of the ST2 while riding without taking your hands off the handlebars.



### L1e e-bike

The ST2 offers motor assistance up to 45 km/h or 28 mph and a continuous rated power of 500 watts. The ST2 is thus legally a light motorcycle in class L1e with regard to Directive 2002/2004/EC. There is an obligation to register and insure vehicles of this category in most countries. Inform yourself of the related regulations to this class of vehicle in your country before riding for the first time.

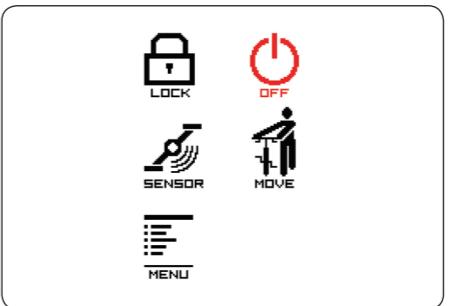
The permissible gross vehicle weight of the ST2 is 140 kg. The gross vehicle weight is the sum of the vehicle weight (27 kg), the rider's weight and luggage.

ing socket. Connect your smartphone to recharge the battery. The charging socket is located on the front by the daytime light and is covered with a rubber lip.

The Pedelec and S-Pedelec/E-Bikes chapter in the accompanying general BMC Operating manual provides you with additional notes on the use of and special regulations for e-bikes.

## Switch off

1. Press the power button to access the shortcut screen.
2. In the shortcut screen, select **OFF**.



## Riding

### Before riding for the first time

**!** This manual contains specific information about your STROMER ST2. Carefully read this user guide. Improper use of the ST2 may lead to product defects and personal injuries.

**i** Be sure to also read the accompanying general BMC Operating manual before riding for the first time.

**i** If you allow your ST2 to be used by third parties, then please provide them with this user guide.

### Switch on

To switch on, press the power button.

**i** If your ST2 has been locked with a PIN, you must enter the Stromer PIN after switching on so that you can use it (see Theft protection, page 08).

## Taking off

The motor assistance kicks in as soon as you start pedaling and have gathered a little momentum. The motor assistance of the ST2 adapts itself to your riding style. The harder you pedal, the more assistance you get from your motor.

**!** For your safety, the motor of the ST2 does not start to run until you have reached a minimum speed. However, always keep a brake engaged before placing the first foot on the pedal. The strong acceleration takes some getting used to. Uncontrolled taking off can lead to a crash or to serious injury in traffic or on a loose surface.

**!** Higher motor-assisted speeds and the additional weight may take some getting used to. Practice the operation of and riding with your ST2 in a calm and safe place before using it on public roads.

## Assistance stages

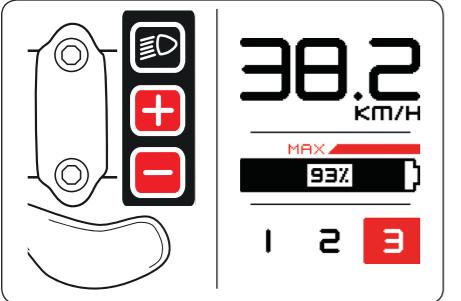
Using the controller on the handlebar, you can press the control buttons + and - to change between the following assistance modes:

No-assistance mode: The motor is switched off.

**Assistance mode 1:** Low motor assistance, optimized for extended range.

**Assistance mode 2:** Medium motor assistance – this assistance mode can be fine-tuned using the Stromer app.

**Assistance mode 3:** High motor assistance for maximum speed.



**i** On the screen, the selected assistance mode is marked. If assistance mode 1/2/3 are not marked, you are in no-assistance mode and have no motor assistance.

## Braking mode

As soon as you press the brake, the motor assistance is interrupted. The motor changes to braking mode and supports you during braking. In braking mode, part of the released energy is used to charge the battery.

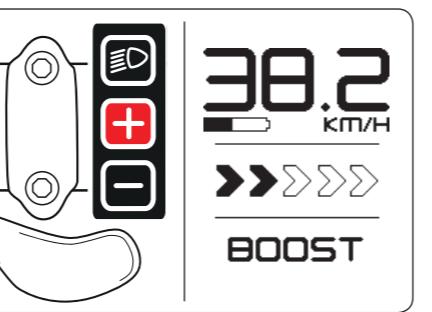
## Regenerative braking

The ST2 offers braking assistance for longer descents. For this, press and hold the minus control button for 2 seconds. Briefly press the plus or minus control button to adapt the braking power of your ST2. To end regenerative braking, press and hold the + or - control button again for 2 seconds.

## Boost mode – riding speed switch

The ST2 provides you with complete assistance at the press of a button. The boost mode accelerates you to 20 km/h or 12 mph, even without pedaling.

To activate the boost mode, press and hold the plus control button on the handlebar. The boost mode supports you when you wish to push your ST2.



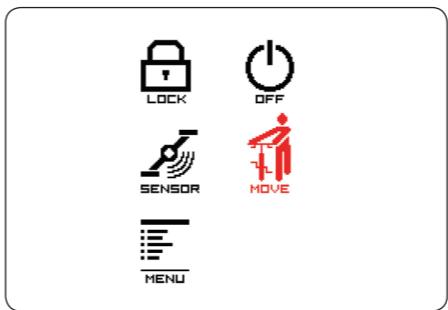
**!** The boost mode does not switch on until you have reached a minimum speed. As soon as you release the plus control button or press the brake, the boost mode is switched off.

## Move mode – push assistance

Your ST2 has an installed push assistance. The move mode supports you when you wish to push your ST2.

1. Press the power button to access the shortcut screen.

2. In the shortcut screen, select MOVE.



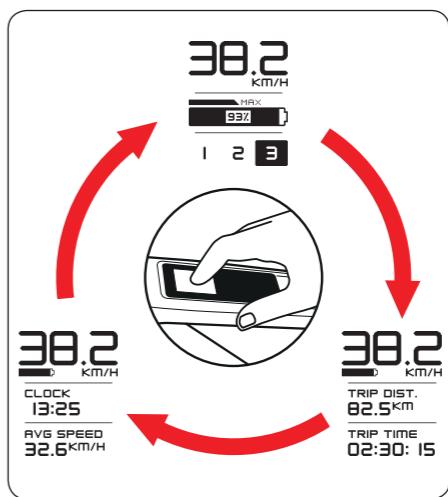
3. Press and hold the plus control button on the handlebar for as long as you require the push assistance.



4. Press the power button to deactivate the move mode.

## Ride screen

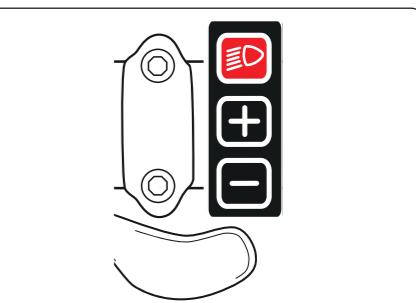
As soon as you take off with the ST2, the touchscreen automatically changes to the ride screen. On the ride screen, the speed and information about your ride are displayed for you. By pressing the touchscreen, you can change from one ride screen to the next to choose what ride data you wish to see.



**i** The menu and settings are not accessible while riding. If you wish to make changes to the settings, the ST2 must be stationary.

## Light

To switch the headlight on and off, press the light control button on the controller on the handlebar.



For your safety in daily traffic, a daytime light is integrated in your ST2. If the daytime light is activated (see Daytime light, page 13), it lights up as soon as the ST2 is switched on. Upon switching on the headlight, the daytime light is dimmed so that oncoming vehicles are not blinded.

**i** The daytime light is not legally permitted in certain countries and therefore cannot be activated there.

## Theft protection

### Activate lock

The ST2 offers you the best possible theft protection. You can lock the ST2 with a PIN when it is switched off. The ST2 can only be switched on again, by re-entering the PIN.

1. Press the power button to access the shortcut screen.
2. In the shortcut screen, select **LOCK**.

**i** If the locked ST2 is moved or is pushed for more than one minute, theft mode is activated. The motor is blocked and the actual position of the ST2 is recorded if a mobile network connection exists. This makes the ST2 highly unattractive for thieves. If your ST2 was not switched off or locked but has not been used for a longer period, it switches itself off. However, it will remain unlocked.

### Deactivate lock

To deactivate the lock, proceed as follows:

1. Press the power button.
2. Then use the touchscreen to enter your PIN.

### Set PIN

1. Press the power button to access the shortcut screen.
2. In the shortcut screen, select **MENU** and then **SETTINGS**.
3. In the **PIN** rubric you can set a new PIN.

**i** Your first lock code is generated randomly and sent to you by text message to the cell phone number and by e-mail address you provided to activate your ST2.

### Battery

#### ST2 battery

The ST2 is equipped with a heavy-duty lithium-ion battery. It supplies the drive system and all other electronic components with power.

You can also use your ST2 battery in another Stromer ST2 or use an additional battery for your ST2.

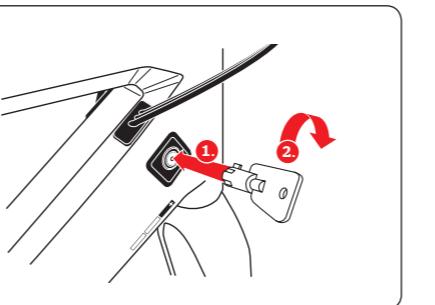
You can fully recharge the ST2 battery after every ride, which increases the service life of the battery and ensures that you are always ready for the next ride. There is thus no need to ride the battery until it is empty each time, as there is no memory effect. Perform as many partial charges as possible, do not ride the battery until it is completely empty and recharge it even after a short rides.

**i** Do not dispose of your ST2 battery and the battery charger in domestic waste. In most countries, dealers are obliged to take back electrical appliances and batteries.

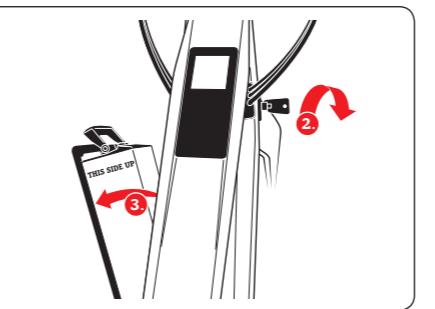
Get to know the current national regulations for the disposal of old electronics and batteries. Bring used battery chargers and the battery back to your Stromer dealer.

### Battery removal

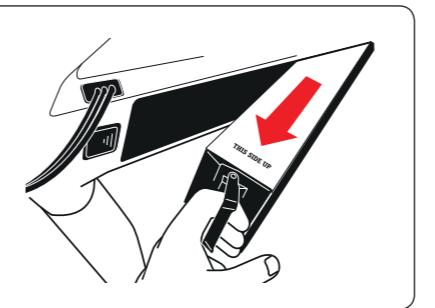
Open the battery box with the appropriate key.



Insert the key gently into the lock and turn it clockwise until the battery box opens.



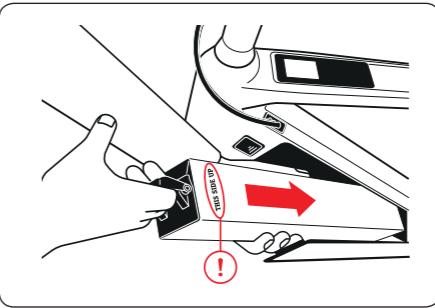
Pull out the battery.



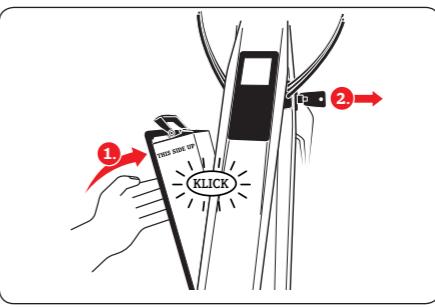
**!** The battery is very heavy. Do not drop it. You could injure yourself and/or damage the battery.

### Battery insertion

Insert the battery in the battery box. Make sure that the EnergyBus plug is pointing down and the lettering **THIS SIDE UP** is visible on the top. Slide the battery down until this engages.



Use the flat of your hand to press the flap until this engages with a slight click and then withdraw the key from the lock.



**!** Never leave the key in the lock. You could injure yourself on the protruding key or get caught on it which could lead to a crash.

Always remove the key from the lock and retain it in a safe place so that it does not break and is not lost.

### Battery charging

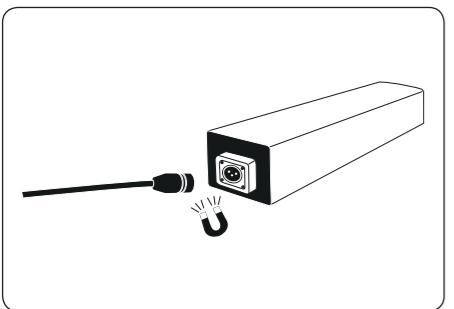
The ST2 battery may only be charged with the ST2 charger. The battery can be charged directly in the Stromer or separately. The charging process with the ST2 battery charger is described below.

**i** Before the first charging process, be sure to read the notes on the battery charger.

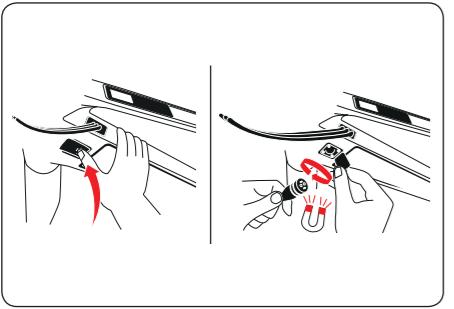
1. Connect the battery charger to the power network. The **LED** lights up red.
2. Loosely hold the charging cable in your hands and slowly guide it near to the socket of the battery **(A)** or your ST2 **(B)**. The plug is automatically correctly aligned by means of the integrated magnets. The magnets will help you align the connector correctly.

**!** Never force the battery charging cable into the charging socket. Make sure that the magnets on the Energybus connector can align the charging cable correctly before you connect it to the charging socket. Incorrect alignment could damage the ST2's electronics.

A. Externally: Connect the battery charger to the battery. The **LED** lights up orange.



B. Internally: Connect the ST2 battery charger to the ST2. The **LED** lights up orange.



3. If the battery is completely charged, the **LED** lights up green. Disconnect the battery/ST2 from the ST2 battery charger.

### Charging time

An empty ST2 battery reaches a battery state of charge of approx. 80 % after a charging time of just under 4 hours. The battery is full in under 5 hours.

### LED fault messages

- **LED** on the ST2 battery charger does not light up: Check whether the ST2 battery charger is correctly connected to the power network.
- **LED** lights up red with battery connected: The battery is not recognized by the ST2 battery charger. Check the connector between the ST2 battery charger and the battery.
- **LED** flashes red: **ERROR** – over-voltage protection, overcharge protection, short-circuit or the battery is damaged.



- Avoid charging processes in over 40 °C or in hermetically sealed rooms.
- Avoid water, moisture, dust or the proximity of flammable materials.
- Always place the battery charger on a secure and stable surface.
- Do not charge the battery if the housing of the battery or battery charger displays any cracks or fractures.

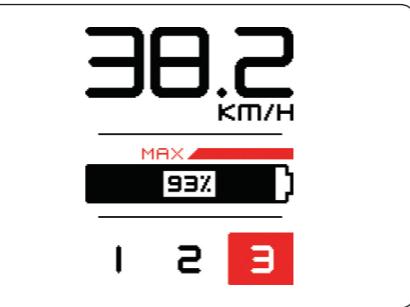
### Battery state of charge screen

In the ride screen, you have the option of tracking the battery state of charge for your ST2. The battery state of charge is shown in the form of a bar and in percent.

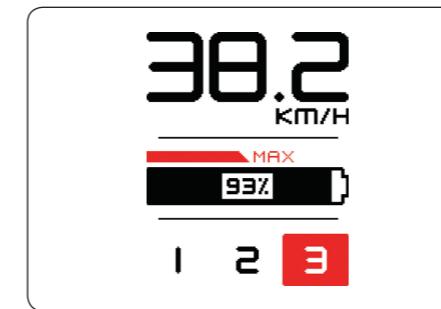
If the battery is empty, your ST2 automatically switches off the motor and changes to the no-assistance mode.

The bar above the battery state of charge shows the current energy flow. The screen helps you to ride an extended range in an energy-efficient manner. The longer the bar, the greater the energy flow.

1. As soon as you are assisted by the motor, the bar is shown from the right to the left.



2. In regenerative braking mode, the battery is charged and the dark bar is shown from the left to the right.



You can find the recommended tire pressure on the side of the tires.

The riding speed and range are decreased on steep climbs as the motor has to work harder to increase the speed or the altitude.

Lower speeds (below 7 mph), mean less efficiency. At high speeds (above 22 mph), drag increases considerably. Ride consistently at a medium speed to achieve the maximum range.

In order to extend the range using regenerative braking, where possible only electrical braking should be used (not mechanical braking). To do so, ride in regenerative braking mode or only lightly tap the brake to activate braking mode. The longer the regenerative braking is active, the more energy can be fed back into the battery.

Increase the pedalling frequency (low gear) while maintaining the same speed and you will ride more economically and extend the range.

The assistance modes 1/2/3 change the ratio between motor assistance and rider power. You save the most battery energy when you change to the smaller assistance mode 1 on a climb.

With the sensor sensitivity, the ratio between the motor power and rider power can be individually adapted. The following is valid here: The lower the sensor sensitivity, the greater the range.

! For your safety, a small portion of the battery energy is saved so that the basic functions of your ST2 can be maintained. Light and the screen remain operational for about an hour if the battery is empty and the motor assistance is interrupted.

### Range – performance tips

With a heavier weight (rider and luggage), the motor must perform higher when accelerating or on a climb. Minimize your luggage in order to achieve a greater range.

Regularly check the tire pressure. Roll resistance increases with low tire pressure, which can considerably reduce the range.

The range of the battery decreases at low temperatures. Only insert a battery that has been stored

at room temperature in your Stromer. This will lessen the negative effect of low temperatures.

### Battery care

In order to increase the service life of your Stromer battery, please observe the following:

- Before riding for the first time or after a longer period of disuse, the battery should be fully charged.
- The first three times you charge your battery make sure it is completely empty. However there after avoid letting the battery go flat.
- In continuous use, you can completely recharge the battery after every ride. This increases the service life of the battery and ensures that you are always ready for the next ride. There is thus no need to ride the battery to empty each time as there will be no memory effect.
- Perform as many partial charges as possible, do not ride the battery until it is completely empty and recharge it even after a short period of operation.
- If the battery is ridden completely empty, you must charge this directly after riding as otherwise the battery life will be compromised.
- If the ST2 814 Wh battery is not used for an extended period, store it at room temperature and recharge every 4 to 6 months.
- If the battery is not charged for an extended period, a deep discharge may occur. The warranty is thus invalid.



- Charge your battery at room temperature.
- In the event of a malfunction or if the battery is in a deep sleep, connect the battery to the battery charger for at least one minute. The battery management then automatically checks the battery and can rectify faults. If this is not productive, contact your Stromer dealer.
- Avoid touching the contacts on the bottom of the battery. This could lead to the battery switching off.

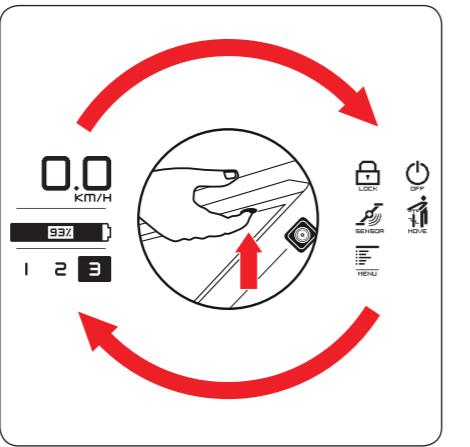
**!** Under no circumstances must you perform the following with your battery:

- Short it
- Place it in water or clean it with water
- Open or tamper with it
- Charge it with a different battery charger
- Expose it to a source of heat or flame

## Menu and settings

### Menu navigation

Press the power button to access the shortcut screen. Here you have direct access to all functions and settings:



The menu is only available if your ST2 is stationary. As soon as you take off, the touch-screen changes to the ride screen. For your safety, you cannot call up the menu while riding.

### Braking mode

As soon as you brake, the motor switches to braking mode. The braking energy is stored in your battery and thereby increases the battery range of your ST2. Using the regenerative braking level, you can adapt the strength of the ST2 engine brake to suit your riding style.

1. In **MENU**, press **BIKE**.
2. In the **BRAKEMODE** rubric you can set the strength of the braking mode.

### Torque sensor

The response behaviour of the ST2 can be adapted to your riding style. With the sensor sensitivity, you can define the ratio between rider power and motor assistance. A higher sensitivity leads to your Stromer already reacting to the slightest pressure on the pedals.

1. In **MENU**, press **BIKE**.
2. In the **TORQ.SENS.** rubric you can set the sensor sensitivity.



A change to the sensor sensitivity influences the response behaviour of the ST2 in all assistance stages. A high degree of sensitivity decreases the range.

### Daytime light

For your safety, the ST2 is equipped with daytime light. As soon as you switch on your Stromer, the daytime light turns on. As soon as you switch on the headlight, the daytime light is dimmed slightly so that oncoming vehicles are not blinded at night.

If you prefer to do without the daytime light, you can deactivate it.

1. In **MENU**, press **LIGHT/LCD**.
2. In the **DAYLIGHT** rubric you can activate and deactivate the daytime light.



**!** We recommend always activating the daytime lights. You are perceived better by other road users as a result and increase your safety in traffic.



The daytime light is not legally permitted in certain countries and therefore cannot be activated there.

### Time/date

You can set the time and date as well as their display format individually.

1. In **MENU**, press **SETTINGS**.

2. In the **TIME/DATE** rubric you can select the desired display format as well as set the time and date.

### Languages

The ST2 supports the following languages: German, English, French, Italian and Dutch.

1. In **MENU**, press **SYSTEM**.
2. In the **LANGUAGES** rubric you can set the desired language.

### Units (km/miles)

The ST2 supports metric (m; km; km/h; Wh/km) and Imperial (ft; miles – mi; mph; Wh/mi) units of measurement.

1. In **MENU**, press **SYSTEM**.
2. In the **UNITS** rubric you can select the desired unit of measurement.

### Parts

### Replacement of add-on parts on the ST2

In general, only use original parts approved by Stromer for your ST2.

### Certificate of Conformity

For type approval of the ST2, certain parts were determined that must not be changed. This means that the approval as per L1e only remains valid as long as the original parts are used. The following parts can only be replaced with identical original parts, otherwise the certificate of conformity of your ST2 is invalid.

1. Frame
2. Fork
3. Motor unit
4. Battery
5. Tires
6. Rims
7. Brake system
8. Front light
9. Rear light
10. License plate bracket
11. Side stand
12. Handlebar
13. Stem

### Tires

Replacement tires for your ST2 must meet the following requirements:

All tires used on the ST2 must have an E-approval for fast e-bikes in accordance with ECE R75.

For example: 75R 0007911

The following tire dimensions have been approved for the ST2:

#### Inch designation ETRTO Size

26x1.75	47-559
26x2.00	50-559
26x2.10	54-559
26x2.15	55-559

### Puncture and removal of wheelset

In the event of a puncture, the tire change is similar to that for a normal bike. If you are not sure how to change a tire, please contact a Stromer specialist retailer.

**!** Before any maintenance work, please remove the battery from the battery box. Never disconnect or connect a plug while the battery is in the battery box. You thereby avoid the risk of an electric shock and of injury.

#### Front wheel

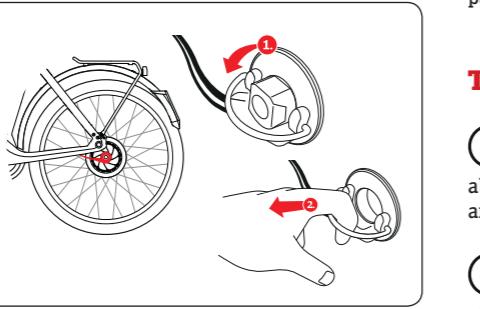
To remove the front wheel, loosen the thru axle with a 6-mm hexagonal wrench and pull out the thru axle.

#### Rear wheel

- To remove the rear wheel, first shift to the smallest sprocket (high gear).
- Loosen the thru axle with a 5-mm hexagonal wrench and pull out the thru axle.
- Pull the gears back slightly.
- Lift the ST2. With a light knock on the wheel

with your palm from above, it should detach from the frame.

- Pull on the small silver tab to disconnect the plug to the motor.



You can now remove the wheel from the fork or chain-stay and rectify the tire damage.

In order to install the wheel again, proceed in the reverse order of the removal. The torque of the thru axles is 20 Nm.

### Warning notes

**!** If the motor is under heavy load for a longer period, e.g. on long ascents, it may overheat. In order to avoid burns, make sure that you do not touch the engine with your hands, feet or legs.

In order to avoid a life-threatening electric shock, make sure that no objects can be held through openings in the ST2.

Make sure that the ST2 cannot be used by third parties without your consent.

### Transport



In order to transport the ST2 with your car, always remove the battery from the battery box and transport it separately.



The ST2 lithium-ion battery has a capacity of 814 Wh and is considered dangerous goods. The ST2 battery belongs to hazard class 9. Transport by airplane as well as any shipment must be approved separately.

If you would like to transport or ship the ST2 by airplane, please contact the transport company in advance. They will be able to inform you of the valid regulations. Before transport, be sure to speak with an expert on hazardous materials.

### Smartphone app

#### Stromer app

Get everything you can out of your ST2. Install the Stromer app on your smartphone and discover the entire world of the ST2. The Stromer app is the easiest way to adapt your ST2 to your needs. Perform your personal fine-tuning on the assistance mode 2. The app also shows you the position and the battery state of charge – even if you are not near the ST2.

#### Service booklet

With the service booklet on your Stromer app, you keep an overview. You can view the service work that was performed on your ST2 at any time and see when we recommend the next service from a Stromer dealer.

**Notes:**

VERSION ST2 1.1

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